

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

1. A train collision avoidance system, comprising:

a data base storing train grade crossing data identifying coordinates where a railroad track intersects with a road and for each train grade crossing data stored, storing in association therewith road heading data indicating the heading of [a] roads intersecting respective railroad tracks at the  
5 grade crossings;

a processor programmed to receive GPS vehicle location data that [periodically] identifies a location of a vehicle, and programmed to use said GPS vehicle location data and said train grade crossing data to determine if the vehicle is within a predefined distance from a grade crossing;

said processor being programmed to correlate the heading data of a road with a heading of  
10 the road vehicle; and

said processor is programmed to provide a sensory indication when the vehicle is within the predefined distance from the grade crossing and when the road vehicle is on a road that intersects with the grade crossing.

2. The train collision avoidance system of Claim 1, wherein said data base stores in association with said train grade crossing data, said road heading [direction] data that identifies a direction of a road [that intersects a railroad track at the grade crossing] with at least one of eight directions.

3. The train collision avoidance system of Claim 2, wherein said processor is programmed to receive road vehicle [direction of travel] heading data and compare said road vehicle [direction of travel] heading data with the direction data stored in said data base, and if said vehicle is within the predefined distance from said grade crossing and if said vehicle direction of travel  
5 coincides with the direction data, said sensory indication is provided

11. A train collision avoidance system, comprising:

a first detector for detecting a geographical location of a vehicle, not a train;

a second detector for detecting a proximity of a train near the vehicle;

a direction sensing device for providing data indicating a heading of the vehicle;

5 a data base storing geographical coordinates of grade crossings where [a road intersects a railroad track] roads intersect respective railroad tracks;

a processor that is programmed to compare the geographical location of the vehicle with the coordinates of the grade crossing to determine whether the vehicle is within a prescribed distance from the grade crossing; and

10 said processor is programmed to provide a sensory indication when said comparison is affirmative, when said detector detects a proximity of the train near the vehicle, and when the heading of the vehicle will cause the vehicle to intersect the grade crossing.